AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Canceled)

3. (Withdrawn)

4. (Canceled)

5. (Canceled)

6-13 (Withdrawn)

14. (Canceled)

15-19 (Withdrawn)

20. (Canceled)

21. (Canceled)

22. (Currently Amended) An electric machine, comprising:

an electric field structure;

a rotor arranged to rotate relative to the electric field structure;

a helical structure situated between the rotor and a rotary shaft, and a pre-stressed spring situated at one end of the rotor, wherein said helical structure and said spring are arranged to enable axial displacement of the rotor relative to the shaft, and thereby vary electrical machinery characteristics of said electric machine, in response to reverse torque resulting from interaction between said rotor, said magnetic field structure, and a load or driving device.

23. (Previously Presented) An electric machine as claimed in claim 22, wherein said helical structure comprises a helical structure for movably coupling said rotor and shaft.

24. (Previously Presented) An electric machine as claimed in claim 22, wherein said helical structure includes a helical nut on the rotor for engaging a corresponding helical groove structure on the shaft.

[Note: Original Claims 24-36 have been Renumbered as Claims 25-37]

25. (Canceled)

26. (Previously Presented) An electric machine as claimed in claim 22, further comprising a second pre-stressed spring situated at an opposite and of the rotor, a direction of said axial displacement depending on a direction of rotation of said shaft.

27. (Previously Presented) An electric machine as claimed in claim 22, wherein said electric machine is a motor.

28. (Previously Presented) An electric machine as claimed in claim 22, wherein said electric machine is a generator.

29. (Previously Presented) An electric machine as claimed in claim 22, wherein said magnetic field structure generates a uniform magnetic field along a length of said rotor.

30. (Canceled)

31. (Currently Amended) An electric machine as claimed in claim 22, wherein electrical machinery characteristics of said rotor vary along a length of the rotor in order to vary magnetic coupling position between the rotor and the magnetic field structure with axial displacement of the rotor and thereby vary operational characteristics of the electrical machine ~~with axial displacement of the rotor~~.

32. (Currently Amended) An electric machine as claimed in claim 22, wherein physical properties of said rotor vary along a length of the rotor in order to vary magnetic coupling position between the rotor and the magnetic field structure with axial displacement of the rotor and thereby vary operational characteristics of the electrical machine ~~with axial displacement of the rotor~~.

33. (Currently Amended) An electric machine as claimed in claim 22, wherein properties of both said magnetic field structure and said rotor are varied in an axial direction to vary magnetic ~~coupling~~ field density between the rotor and the magnetic field structure and thereby vary operational characteristics of the electrical machine with axial displacement of the rotor.

34. (Previously Presented) An electric machine as claimed in claim 22, wherein axial displacement of the rotor relative to the shaft causes pulling of a control clutch, transmission device, or other control or testing device.

35. (Currently Amended) An electric machine ~~as claimed in claim 22~~, comprising:

an electric field structure;

a rotor arranged to rotate relative to the electric field structure;

a helical structure situated between the rotor and a rotary shaft, and a pre-stressed spring situated at one end of the rotor, wherein said helical structure and said spring are arranged to enable axial displacement of the rotor relative to the shaft, and thereby vary electrical machinery characteristics of said electric machine, in response to reverse torque resulting from interaction between said rotor, said magnetic field structure, and a load or driving device, and

further comprising an external device for controlling said axial displacement of said rotor exteriorly.

36. (Currently Amended) An electric machine as claimed in claim ~~22~~ 35, wherein said external device is selected from the group consisting of a manual, electrical, hydraulic, or mechanical control device.

37. (Currently Amended) An electric machine as claimed in claim ~~22~~ 35, wherein an axial length of said rotor is greater than an axial length of said magnetic field structure.

38. (New) An electric machine as claimed in claim 35, wherein said electric machine is a generator.

39. (New) An electric machine as claimed in claim 35, wherein said magnetic field structure generates a uniform magnetic field along a length of said rotor.

40. (New) An electric machine as claimed in claim 35, wherein electrical machinery characteristics of said rotor vary along a length of the rotor in order to vary magnetic coupling position between the rotor and the magnetic field structure with axial displacement of the rotor and thereby vary operational characteristics of the electrical machine.

41. (New) An electric machine as claimed in claim 35, wherein physical properties of said rotor vary along a length of the rotor in order to vary magnetic coupling position between the rotor and

the magnetic field structure with axial displacement of the rotor and thereby vary operational characteristics of the electrical machine.

42. (New) An electric machine as claimed in claim 35, wherein properties of both said magnetic field structure and said rotor are varied in an axial direction to vary magnetic field density between the rotor and the magnetic field structure and thereby vary operational characteristics of the electrical machine with axial displacement of the rotor.

43. (New) An electric machine as claimed in claim 35, wherein axial displacement of the rotor relative to the shaft causes pulling of a control clutch, transmission device, or other control or testing device.